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PRECIPITATION IN TENNESSEE RIVER BASIN

ANNUAL 1965

SUMMARY

(All Figures are in Inches)

AVERAGE PRECIPITATION

Above Chattanooga	(51.11)*	45.26
Below Chattanooga	(52.10)*	45.75
Entire Basin	(51.58)*	45.48

MOST RAIN

Haywood Gap, N. C.	96.91
--------------------	-------

LEAST RAIN

Stone Mountain, Tenn.	27.59
-----------------------	-------

HIGHEST 24-HOUR RAIN

Haywood Gap, N. C.	11.52
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NATURAL STREAMFLOW

Above Knoxville	17.51
Above Chattanooga	19.97

*Mean for 75-Year Period 1890-1964

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TENNESSEE VALLEY AUTHORITY

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PRECIPITATION IN TENNESSEE RIVER BASIN

ANNUAL 1965

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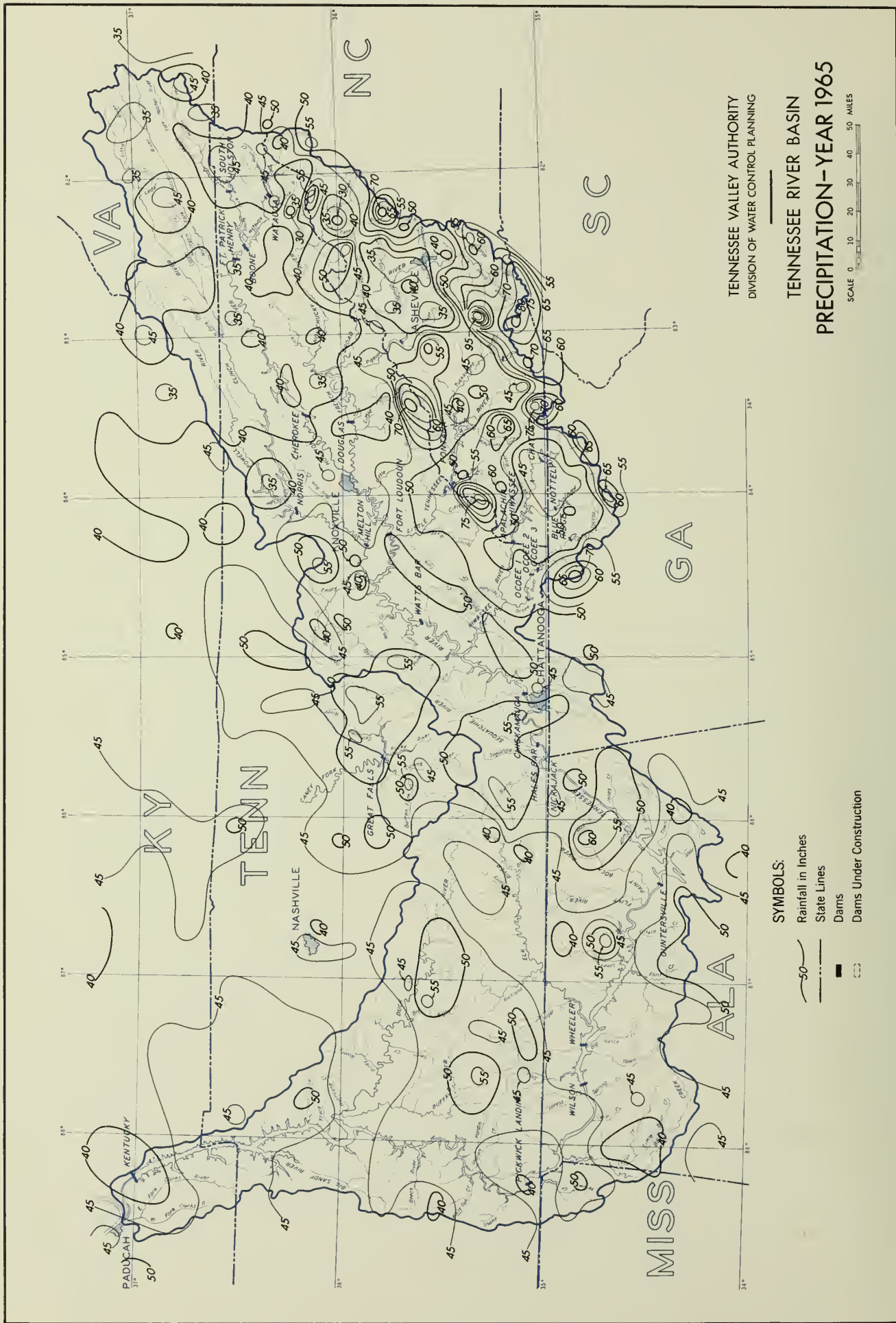
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ANNUAL 1965

PRECIPITATION
IN
TENNESSEE RIVER BASIN

REPORT NO. O-243





TENNESSEE VALLEY AUTHORITY
DIVISION OF WATER CONTROL PLANNING

TENNESSEE RIVER BASIN

PRECIPITATION—YEAR 1965

SCALE 0 10 20 30 40 50 MILES

PRECIPITATION IN TENNESSEE RIVER BASIN

ANNUAL 1965

Precipitation

The year 1965 ranks as the eleventh driest year in the Tennessee Valley in 76 years of record. Precipitation over the Basin during the year averaged 45.48 inches, 6.10 inches less than the 75-year (1890-1964) mean. A comparison of the amounts above and below Chattanooga listed in the summary on the cover of this report shows almost equal averages between these two areas and the entire Basin. The frontispiece map shows the 1965 annual distribution of precipitation over the Basin. The tables on pages 17 to 25 show monthly and annual precipitation data for stations in the Tennessee River Basin, together with some stations bordering the Basin.

Monthly precipitation in the Basin was below the 75-year mean during nine months in 1965, with March, June, and September amounts exceeding the mean. The wettest month was March. An unusual phenomenon during the year was the dryness of December. The average December rainfall on the Basin was only 0.91 inch, about one-fifth of the long-term average, and the lowest December total in 76 years of record. The table on page 5 shows monthly and annual precipitation data with means and deviations for the Basin.

The station at Haywood Gap, North Carolina, located on the divide between the French Broad and Pigeon Rivers received the maximum monthly and annual precipitation during 1965. The maximum monthly precipitation at this station was 17.52 inches in October. This station also recorded 15.28 inches in September 1965. The September and October amounts accounted for over one-third of the 1965 precipitation at Haywood Gap. Other high monthly totals were 15.47 inches in March at Widows Creek Steam Plant, Alabama, and 12.76 inches in July at Madison, Alabama. The maximum station total for 1965 was 96.91 inches at Haywood Gap. The 30-year (1935-1964) mean at this station is 74.30 inches. This station recorded 133.30 inches in 1957, the greatest-known calendar year total in the Tennessee River Basin.

The minimum monthly station precipitation was 0.02 inch in December at Well Spring, Tennessee, located about 16 miles northeast of Norris Dam. Other low monthly totals were 0.20 inch in May at Toney, Alabama, and 0.12 inch in August at Buchanan, Tennessee. The lowest total 1965 precipitation in the Basin was 27.59 inches at Stone Mountain, Tennessee, about 10 miles south of Elizabethton in the Watauga River Basin. This amount is 20.68 inches less than the 30-year mean of 48.27 inches. The ten highest and lowest amounts for 1965 in the Tennessee River Basin, in addition to two stations located just outside the Basin, are listed in the following table:

1965 Annual Precipitation
At Ten Wettest and Ten Driest Stations
in the
Tennessee River Basin

<u>Highest Amounts</u>	
<u>Station</u>	<u>1965 Annual Precipitation inches</u>
Haywood Gap, N. C.	96.91
Sassafras Mountain, S. C.	77.94
Coweeta No. 31, N. C.	77.64
Haw Knob, Tenn.	75.20
Rosman No. 2, N. C.	73.51
Flat Top, Ga.	73.08
North Citico Cr. No. 3, Tenn.	72.93
Haw Knob, Tenn. (Radio)	72.2
Little Santeetlah Cr. No. 3, N. C.	71.67
Mt. Mitchell, N. C.	71.38
Lake Toxaway, N. C.	80.25) Outside
Caesars Head, S. C.	77.26) Basin
<u>Lowest Amounts</u>	
Stone Mountain, Tenn.	27.59
Daybook, N. C.	29.98
Canton, N. C.	31.12
Enka, N. C.	31.80
Konnarock, Va. (Radio)	32.3
Chambers Mountain, N. C.	32.39
Parker Branch, N. C.	32.41
Spring Creek, Va.	32.62
Weaverville, N. C.	32.89
Asheville, N. C.	33.49

Precipitation statistics for selected stations throughout the Basin are shown on pages 5 to 8.

The greatest station precipitation in a 24-hour period during the year was 11.52 inches which fell during the storm of September 30-October 1 at Haywood Gap, North Carolina. This station also reported the second highest 24-hour amount, 6.78 inches on September 23-24. The table on page 8 shows the stations with the 10 highest rainfall intensities during the year.

Over the watershed subdivisions the maximum annual average for 1965 was 67.0 inches over the French Broad River watershed above Blantyre, North

Carolina, 6.5 inches less than the 30-year mean of 73.5 inches. The minimum annual average was 39.1 inches over the Holston River watershed from Kingsport to Cherokee Dam, 5.8 inches less than the 30-year mean of 44.9 inches. The 1965 precipitation totals for the individual watershed subdivisions are shown on the map on page 9 and for selected watersheds in the table on page 10.

Precipitation for the year on 14 selected watersheds is shown on page 11. Other tabulations and charts on pages 12 and 13 show selected data on precipitation and runoff.

Snow

Snowfall was reported in the Basin during the first four and last three months of 1965, with practically all of the measurable amounts occurring during the first three months of the year. The average snowfall over the Basin during one year was 12.2 inches: 35 percent in January, 39 percent in February, 24 percent in March, and 2 percent in December. East of Chattanooga the average snowfall was 17.4 inches; west of Chattanooga it amounted to 6.2 inches. The maximum for the Basin, 53.7 inches, occurred at Cataloochee Ranch, North Carolina, in the Pigeon River watershed. In the western section of the Basin the maximum snowfall was 20.1 inches at Murray, Kentucky. In the Caney Fork area above Great Falls Dam the average snowfall for the year was 9.8 inches, with a maximum of 15.5 inches at Monterey, Tennessee.

Streamflow

Streamflow in the Basin was below normal for ten months in 1965, with only March and April runoff above the mean. Flows from the watersheds above Chattanooga and Knoxville are shown on the cover and in the following table:

ANNUAL NATURAL STREAMFLOW IN INCHES - 1965

<u>Tennessee River at</u>	<u>Water Year</u>		<u>Calendar Year</u>	
	<u>1965</u>	<u>Mean</u>	<u>1965</u>	<u>Mean</u>
Knoxville	21.43	19.51	17.51	19.48
Chattanooga	23.81	23.61	19.97	23.60

Other tabulations and charts on pages 11, 12, and 13 show selected runoff data.

Evaporation

Data observed at the six TVA evaporation stations are shown in the table on page 14.

Drought

The year 1965 was the driest year in the Basin since 1952 and the eleventh driest in 76 years of record. Drought conditions occurred in the Basin in April, May, and July through December. Rainfall in December was the lowest for that month in the Basin in 76 years of record.

Monthly Reports

Monthly issues of the bulletin "Precipitation in Tennessee River Basin" contain tabulations of daily precipitation at stations located in or near the Basin, together with isohyetal maps of monthly precipitation, maps showing mean monthly precipitation on watershed subdivisions, description of storms, tabulations of rainfall and runoff on selected watersheds, intense rainfall data, and other information.

Special Reports

Reports on special storm investigations were published in monthly issues of this publication during 1965. These reports and the date of the issue in which they appear are as follows:

	<u>Monthly Bulletin Containing Report</u>
Tornado and Windstorm of March 17, 1965	March
Windstorms of March 25 and 29, 1965	March
Floods of Late March 1965 in Tennessee River Basin	March
Sparta, Crossville, Kingston, and Knoxville Tornado and Windstorm	April
Tornado and Windstorm near Cleveland, Tennessee	April
Tornado and Windstorm on Sand Mountain, Alabama	April
Intense Rainstorm of July 24, 1965, at New Market- Friends Station, Tennessee	July
Intense Storm of July 23-24, 1965, in Vicinity of Middlesboro, Kentucky	July
Storm and Flood of July 24, 1965, in Vicinity of Clinchmore, Tennessee	July

TENNESSEE RIVER BASIN PRECIPITATION DURING 1965

Precipitation in Inches

<u>Month</u>	<u>Above Chattanooga 1965</u>	<u>Below Chattanooga 1965</u>	<u>Tennessee River Basin</u>			
			<u>1965</u>	<u>75-Yr Mean</u>	<u>Deviation from Mean Monthly</u>	<u>Cumulative</u>
January	3.83	3.67	3.76	4.88	-1.12	-1.12
February	3.76	5.52	4.58	4.84	-0.26	-1.38
March	8.17	8.88	8.50	5.61	+2.89	+1.51
April	4.25	4.21	4.23	4.48	-0.25	+1.26
May	3.73	2.85	3.32	4.08	-0.76	+0.50
June	3.88	4.67	4.25	4.24	+0.01	+0.51
July	5.09	4.57	4.85	4.91	-0.06	+0.45
August	3.52	2.73	3.15	4.17	-1.02	-0.57
September	3.39	3.39	3.39	3.20	+0.19	-0.38
October	2.61	1.68	2.17	2.84	-0.67	-1.05
November	2.49	2.24	2.37	3.57	-1.20	-2.25
December	0.54	1.34	0.91	4.76	-3.85	-6.10
Total	45.26	45.75	45.48	51.58		

Mean precipitation figures are for the period 1890-1964.

PRECIPITATION STATISTICS FOR SELECTED STATIONS

Precipitation in Inches

<u>Month</u>	<u>Long- Term Mean</u>	<u>Maximum of Record</u>		<u>Minimum of Record</u>		<u>Year 1965</u>
		<u>Amount</u>	<u>Year</u>	<u>Amount</u>	<u>Year</u>	

ELIZABETHTON, TENNESSEE (74 Years)

January	3.45	8.13	1947	0.46	1896	2.74
February	3.42	7.59	1944	0.48	1906	2.26
March	4.25	10.72	1899	1.37	1937	5.38
April	3.36	6.05	1912	0.65	1942	5.34
May	4.00	7.73	1915	1.08	1941	3.76
June	4.67	16.38	1872	1.33	1946	5.20
July	5.11	10.56	1896	1.10	1872	4.65
August	4.32	12.14	1901	0.89	1896	2.56
September	2.87	7.61	1928	0.30	1903	2.75
October	2.53	7.61	1918	0.02	1904	2.02
November	2.41	5.02	1948	0.61	1931	1.63
December	3.31	9.87	1872	0.30	1965	0.30
Annual	43.70	58.91	1928	29.06	1941	38.59

PRECIPITATION STATISTICS FOR SELECTED STATIONS--Continued

Precipitation in Inches

<u>Month</u>	<u>Long- Term Mean</u>	<u>Maximum of Record Amount</u>	<u>Year</u>	<u>Minimum of Record Amount</u>	<u>Year</u>	<u>Year 1965</u>
<u>MURPHY, NORTH CAROLINA (91 Years)</u>						
January	5.58	14.85	1882	1.75	1907	4.25
February	5.71	15.10	1873	0.56	1906	5.66
March	6.34	15.34	1917	2.09	1918	9.13
April	4.83	15.40	1874	0.30	1915	4.45
May	4.00	11.25	1929	0.46	1941	5.28
June	4.93	9.31	1884	0.94	1964	3.93
July	5.64	13.42	1950	0.89	1957	4.33
August	4.91	13.96	1920	0.95	1953	1.96
September	3.32	8.04	1962	0.20	1876	4.22
October	3.05	9.27	1949	0.00	1963	2.79
November	3.80	13.18	1948	0.51	1924	3.14
December	5.18	12.98	1932	0.48	1965	0.48
Annual	57.29	84.80	1875	40.00	1940	49.62

CHATTANOOGA, TENNESSEE (87 Years)

January	5.26	14.74	1882	1.13	1961	3.51
February	5.07	12.30	1939	0.62	1941	4.46
March	5.99	14.05	1899	0.93	1910	9.43
April	4.71	15.29	1911	0.44	1942	2.87
May	3.82	12.00	1929	0.54	1941	1.65
June	4.09	9.40	1949	0.29	1931	4.92
July	4.63	13.49	1916	0.20	1957	3.13
August	3.76	12.36	1920	0.45	1929	3.55
September	3.12	12.19	1957	0.04	1919	4.47
October	2.93	11.91	1925	0.08	1938	1.03
November	3.65	13.59	1948	0.16	1890	4.48
December	5.06	13.68	1961	0.44	1889	0.86
Annual	52.09	72.37	1929	32.68	1904	44.36

LEWISBURG, TENNESSEE (72 Years)

January	5.23	17.05	1950	1.26	1943	3.19
February	5.20	13.14	1939	1.08	1941	3.50
March	5.98	12.50	1902	0.94	1910	8.34
April	4.59	12.60	1912	0.56	1915	7.98
May	3.99	8.50	1933	0.60	1941	3.46
June	4.03	13.46	1900	0.72	1899	7.31
July	4.46	9.85	1941	0.84	1954	6.22
August	3.93	11.40	1923	0.57	1909	1.44
September	3.17	12.41	1957	0.32	1927	4.04
October	2.86	8.88	1919	T	1963	2.02
November	3.82	10.27	1948	0.46	1953	3.21
December	4.74	11.71	1922	0.77	1958	0.91
Annual	52.00	66.62	1950	37.42	1904	51.62

PRECIPITATION STATISTICS FOR SELECTED STATIONS--Continued

<u>Month</u>	<u>Precipitation in Inches</u>					
	<u>Long-Term Mean</u>	<u>Maximum of Record Amount</u>	<u>Year</u>	<u>Minimum of Record Amount</u>	<u>Year</u>	<u>Year 1965</u>
<u>MUSCLE SHOALS, ALABAMA* (82 Years)</u>						
January	5.12	13.09	1950	1.20	1961	2.76
February	5.08	13.64	1948	0.54	1941	4.92
March	5.88	16.15	1897	1.26	1910	8.47
April	4.59	16.07	1892	0.74	1930	5.30
May	3.84	11.29	1939	0.16	1941	2.43
June	4.05	13.87	1900	0.60	1897	4.29
July	4.45	14.60	1916	0.77	1935	4.06
August	3.69	10.60	1894	0.35	1948	4.29
September	2.96	7.87	1890	0.00	1897	3.54
October	2.59	11.05	1918	0.00+	1924	0.39
November	3.50	11.39	1948	0.16	1949	1.09
December	4.85	14.59	1926	0.83	1958	1.26
Annual	50.60	76.21	1932	30.92	1943	42.80

*Before December 1940 this station was at Florence, Alabama.

+Also minimum for 1963.

<u>JOHNSONVILLE, TENNESSEE * (82 Years)</u>						
January	5.41	23.51	1937	0.44	1963	3.83
February	4.37	9.56	1939	0.79	1947	6.94
March	5.32	13.07	1927	0.59	1910	6.87
April	4.61	12.29	1892	0.53	1887	3.54
May	4.23	10.19	1909	0.48	1951	3.47
June	4.03	13.34	1928	0.37	1930	2.96
July	4.08	10.12	1892	0.06	1890	4.56
August	3.73	13.70	1914	0.34	1948	0.75
September	3.42	11.31	1921	0.00	1897	3.55
October	2.74	11.44	1919	0.00	1963	0.62
November	4.10	11.90	1906	0.74	1949	2.51
December	4.52	14.66	1926	0.05	1889	1.40
Annual	50.56	76.17	1950	32.48	1960	41.00

*Since August 1949 records collected at Johnsonville Steam Plant have been used.

<u>HENDERSONVILLE, NORTH CAROLINA (69 Years)</u>						
January	4.66	12.40	1906	0.39	1907	3.26
February	4.68	10.73	1891	0.54	1930	5.96
March	5.48	11.67*	1891	0.96	1930	5.22
April	4.42	9.38	1920	0.43	1915	5.59
May	4.35	12.70	1942	0.95	1914	4.29
June	5.19	11.56	1934	0.96	1911	5.94
July	6.11	22.09	1916	1.72	1957	6.90
August	6.07	26.58	1901	0.49	1925	7.25
September	4.43	14.00	1906	0.22	1919	2.55
October	4.12	14.59	1918	0.01	1904	4.58
November	3.37	12.54	1948	0.21	1910	1.56
December	5.02	12.85	1918	0.23	1965	0.23
Annual	57.90	92.60	1901	32.55	1925	53.33

*Also maximum for March 1952.

PRECIPITATION STATISTICS FOR SELECTED STATIONS--Continued

Precipitation in Inches

<u>Month</u>	<u>Long- Term Mean</u>	<u>Maximum of Record Amount</u>	<u>Year</u>	<u>Minimum of Record Amount</u>	<u>Year</u>	<u>Year 1965</u>
<u>KNOXVILLE, TENNESSEE (95 Years)</u>						
January	4.68	16.98	1882	1.29	1907	4.74
February	4.74	12.52	1873	0.56	1898	3.36
March	5.19	13.35	1917	0.72	1910	9.48
April	4.22	17.32	1874	0.70	1942	4.05
May	3.74	8.81	1938	0.71	1941	3.64
June	4.11	11.83	1928	1.39	1936	3.01
July	4.56	13.16	1917	0.69	1901	4.18
August	3.80	11.33	1920	1.10	1953	2.55
September	2.82	10.78	1944	0.18	1961	3.24
October	2.54	9.51	1925	0.00	1963	1.71
November	3.36	11.69	1948	0.17	1890	2.18
December	4.31	12.34	1901	0.47	1965	0.47
Annual	48.07	73.87	1875	33.67	1930	42.61

TEN HIGHEST RAINFALL INTENSITIES DURING 1965

IN TENNESSEE RIVER BASIN

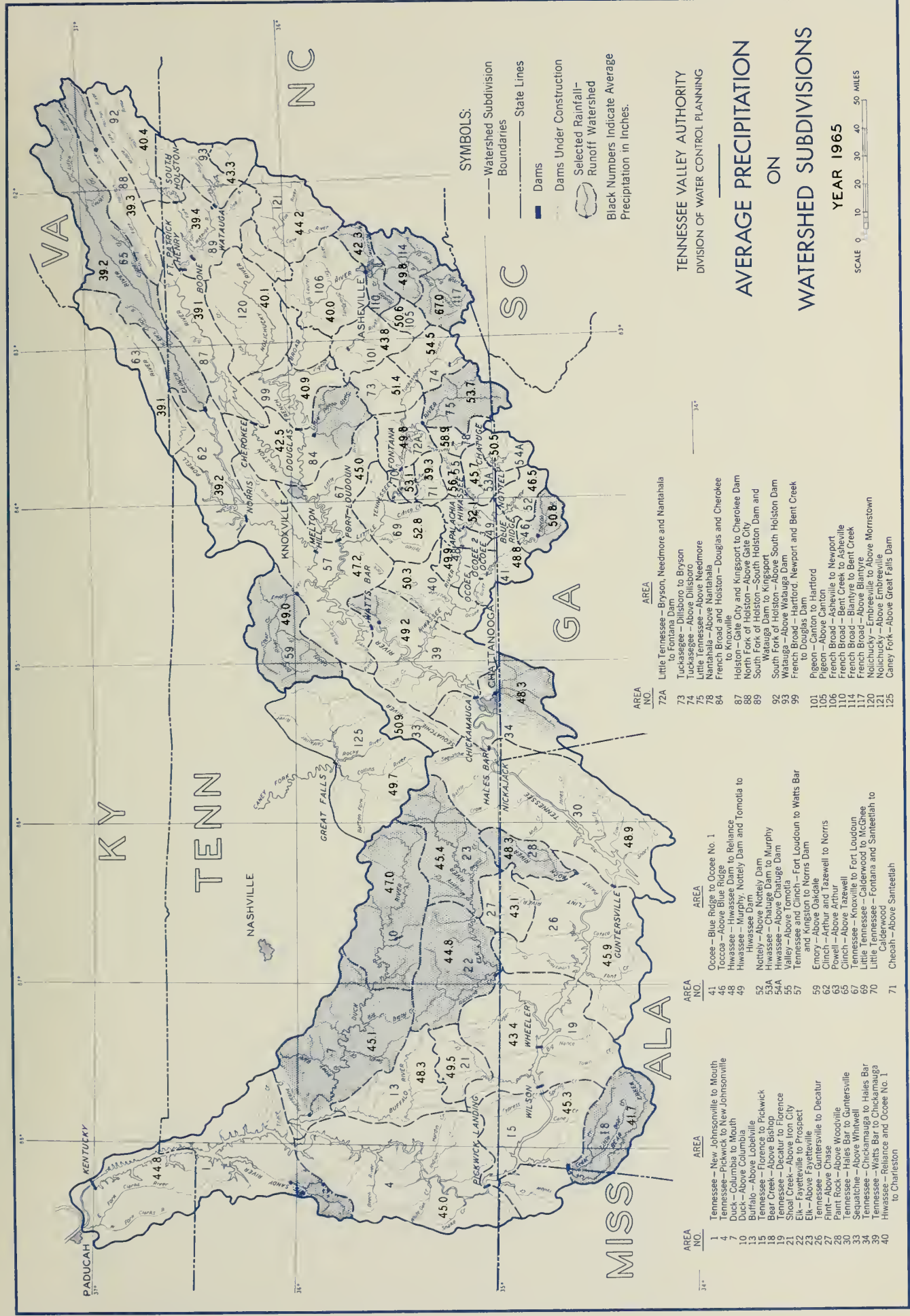
Intense Rainfall is 1 Inch Per Hour or 3 Inches in 24 Hours

<u>Station Number</u>	<u>Station Name</u>	<u>Date</u>	<u>Precipitation Amount inches</u>	<u>Duration hours</u>
190	Haywood Gap, N. C. (R)	Sept. 30-Oct. 1	11.52	24.0
190	Haywood Gap, N. C. (R)	Sept. 23-24	6.78	23.0
169	Clinton TVA Nursery, Tenn.	July 7	5.65**	3.0
28	Beech Grove, Tenn.	June 15	5.40	13.5
179	Haw Knob, Tenn. (R)	Mar. 25-26	4.98	24.0
173	Kittie, Tenn.	Mar. 25-26	4.98	*
22	Ashwood, Tenn.	Apr. 25-26	4.91	*
228	Coxcomb Mountain, N. C. (R)	May 8-9	4.43	15.5
17A	Johnsonville Steam Plant, Tenn. (R)	Feb. 10-11	4.41	21.0
233A	Mt. Mitchell, N. C. (R)	Aug. 20-21	4.01	24.0

(R) Recorder

*Occurred in 24 hours or less, exact duration unknown.

**Greatest intensity for time interval.



AVERAGE PRECIPITATION ON WATERSHED SUBDIVISIONS

1965 MONTHLY AND ANNUAL

Subdivision	Average Precipitation - Inches												
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Entire Tennessee River Basin	3.76	4.58	8.50	4.23	3.32	4.25	4.85	3.15	3.39	2.17	2.37	0.91	45.48
	5.47	5.26	5.67	4.46	3.81	3.96	4.90	3.90	3.17	2.65	3.97	4.54	51.76
Area Above Chattanooga	3.83	3.76	8.17	4.25	3.73	3.88	5.09	3.52	3.39	2.61	2.49	0.54	45.26
	5.07	5.00	5.42	4.22	3.79	4.12	5.34	4.27	3.22	2.77	3.68	4.34	51.24
Area Below Chattanooga	3.67	5.52	8.88	4.21	2.85	4.67	4.57	2.73	3.39	1.68	2.24	1.34	45.75
	5.93	5.55	5.96	4.74	3.84	3.78	4.39	3.48	3.12	2.51	4.30	4.75	52.35
French Broad Above Newport	2.83	4.47	6.98	4.25	4.42	4.15	5.01	4.10	3.88	4.31	1.92	0.32	46.64
	4.42	4.42	5.21	4.20	3.75	4.49	5.76	5.26	3.75	3.31	3.44	3.91	51.92
French Broad Above Douglas Dam	3.15	3.74	7.11	4.37	3.91	3.76	4.89	3.77	3.47	3.62	2.05	0.36	44.20
	4.39	4.41	5.08	3.97	3.68	4.22	5.55	4.73	3.42	3.00	3.35	3.78	49.58
Holeston Above Cherokee Dam	3.44	2.87	6.04	4.58	3.42	3.55	5.47	3.37	2.56	2.53	1.84	0.37	40.04
	4.07	4.00	4.50	3.45	3.79	3.84	5.14	4.03	2.89	2.41	3.05	3.43	44.60
Holeston and French Broad Above Knoxville	3.38	3.37	6.85	4.38	3.67	3.58	5.09	3.57	3.04	3.02	2.04	0.37	42.36
	4.33	4.32	4.87	3.77	3.73	4.05	5.36	4.38	3.17	2.73	3.27	3.68	47.66
Little Tennessee Above McChes	4.68	4.95	9.68	4.26	4.45	4.09	4.63	4.64	4.56	3.52	3.27	0.72	53.45
	6.15	6.04	6.55	5.02	4.11	4.63	6.03	4.90	3.56	3.22	4.26	5.22	59.69
Little Tennessee Above Fontana Dam	4.76	5.26	9.06	4.39	4.34	3.77	3.88	4.48	4.83	4.40	3.21	0.69	53.07
	6.19	6.10	6.67	5.08	4.07	4.65	6.13	5.04	3.77	3.36	4.20	5.33	60.59
Clinch Above Norrie Dam	4.37	2.79	6.77	4.22	3.32	2.62	5.15	3.08	2.12	2.28	2.05	0.44	39.21
	4.62	4.48	4.96	3.61	3.81	4.04	5.06	3.98	2.87	2.40	3.35	3.83	47.01
Hivasee Above Charleston	3.89	4.94	9.17	4.08	4.46	4.13	4.50	3.65	4.50	2.48	3.28	0.71	49.79
	5.98	5.94	6.36	5.12	3.91	4.45	5.73	4.49	3.42	3.06	4.13	5.18	57.77
Hivasee Above Hivasee Dam	4.00	5.06	8.45	4.25	4.59	4.07	4.21	3.62	4.08	3.28	3.40	0.63	49.64
	5.97	5.99	6.45	5.25	3.99	4.68	6.08	4.75	3.58	3.17	3.99	5.20	59.10

Note: 30-Year Averages Based on 1935-1964 Averages.

RAINFALL AND RUNOFF FOR SELECTED WATERSHEDS

Stream	Station	Drainage Area sq. mi.	January 1 - December 31, 1965			Runoff in Percent of Rainfall	Rainfall Minus Runoff inches
			Rain- fall inches	Departure ^a inches	Run- off inches		
Big Sandy River	Bruceton	205	45.0	-7.0	16.0	35.6	29.0
Duck River	Hurricane Mills	2571	46.0	-5.3	20.4	44.3	25.6
Bear Creek	Bishop	667	41.7	-12.4	16.0	38.4	25.7
Elk River	Prospect	1784	45.1	-9.4	19.1	42.4	26.0
Paint Rock River	Woodville	320	48.3	-7.6	24.1	49.9	24.2
South Chickamauga Creek	Chickamauga	428	46.1	-7.9	17.6	38.2	28.5
Toccoa River	Dial	177	50.8	-15.1	31.6	62.2	19.2
Sewee Creek	Decatur	117	46.7	-6.0	20.7	44.3	26.0
Emory River	Oakdale	764	49.0	-4.0	20.7	42.2	28.3
Clinch River	Tazewell	1474	39.2	-6.1	16.0	40.8	23.2
Little Tennessee River	Needmore	436	53.7	-8.2	30.6	57.0	23.1
North Fork Holston River	Saltville	222	36.0	-5.4	14.7	40.8	21.3
Little Pigeon River	Sevierville	353	45.4	-9.0	19.8	43.6	25.6
French Broad River	Asheville	945	53.1	-5.2	28.7	54.0	24.4

a. Rainfall departures are referred to the 30-year means for the period 1935-1964.

b. Runoff departures are referred to medians furnished by the U. S. Geological Survey.

Locations of watersheds are shown on map "Average Precipitation on Watershed Subdivisions." Runoff data are furnished by the U. S. Geological Survey and are tentative.

MONTHLY AND ANNUAL RAINFALL AND RUNOFF

12

TENNESSEE RIVER ABOVE CHATTANOOGA, TENNESSEE

Drainage Area - 21,400 Square Miles

	<u>Jan.</u>	<u>Feb.</u>	<u>Mar.</u>	<u>Apr.</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>Aug.</u>	<u>Sept.</u>	<u>Oct.</u>	<u>Nov.</u>	<u>Dec.</u>	<u>Annual</u>
	<u>Rainfall in Inches 1890 - 1965</u>												
1965	3.83	3.76	8.17	4.25	3.73	3.88	5.09	3.52	3.39	2.61	2.49	0.54	45.26
Maximum	10.32	9.69	11.40	7.49	7.95	8.67	11.07	13.33	7.69	8.37	10.30	9.98	64.09
Minimum	1.42	0.96	1.37	0.95	0.80	1.73	2.02	1.25	0.77	0.04	0.44	0.54	37.23
Mean ^a	4.57	4.71	5.38	4.20	4.04	4.45	5.27	4.50	3.26	2.90	3.28	4.55	51.11
Median ^a	4.23	4.47	5.15	4.15	3.80	4.49	5.07	4.15	3.21	2.48	3.13	4.20	51.94

a. For Period 1890 - 1964

Runoff in Inches 1874 - 1965 (Unregulated)

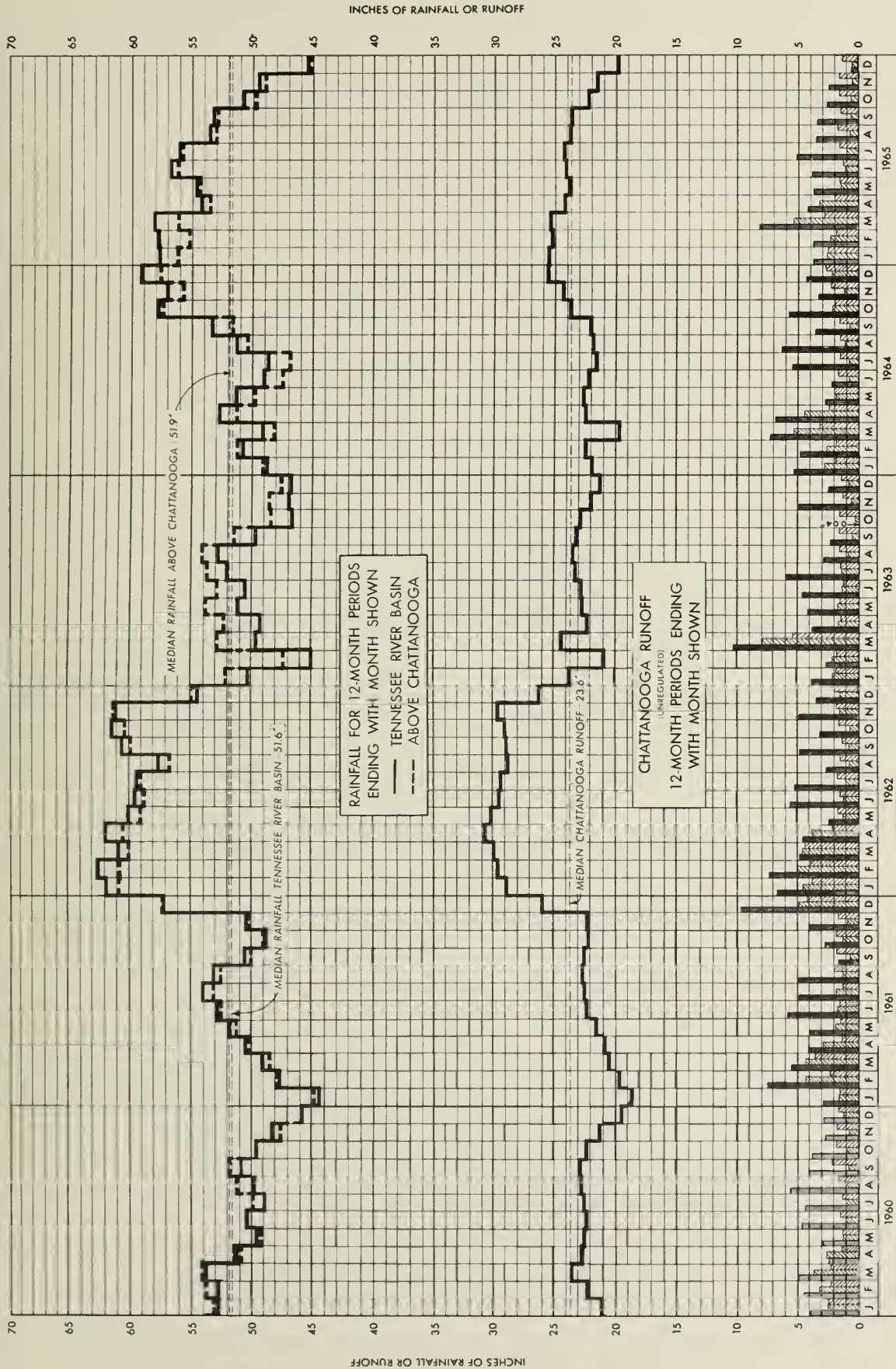
1965	2.57	2.34	5.41	3.24	1.49	1.10	1.01	0.64	0.56	0.64	0.50	0.47	19.97
Maximum	9.42	7.45	9.62	7.11	5.28	3.75	3.90	4.28	2.69	3.17	3.77	5.11	36.54
Minimum	0.50	0.62	1.30	1.01	0.61	0.50	0.45	0.26	0.21	0.30	0.30	0.41	11.22
Mean ^b	3.03	3.27	3.81	2.98	1.99	1.42	1.32	1.13	0.84	0.80	1.10	1.93	23.62
Median ^b	2.76	3.11	3.28	2.73	1.76	1.26	1.11	0.96	0.69	0.70	0.84	1.68	23.61

b. For Period 1874 - 1964

Runoff in Cubic Feet Per Second 1874 - 1965 (Unregulated)

1965	47,700	48,200	100,500	62,200	27,700	21,200	18,700	11,900	10,700	12,000	9,600	8,800	31,500
Maximum	174,800	147,800	178,500	136,400	98,000	72,000	72,300	79,400	51,500	58,900	72,400	94,800	57,600
Minimum	9,200	12,700	24,100	19,400	11,300	9,600	8,300	4,760	3,990	5,510	5,800	7,700	17,690
Mean ^b	56,200	66,600	70,700	57,200	36,900	27,200	24,500	21,000	16,100	14,800	21,100	35,800	37,200
Median ^b	51,200	63,400	60,900	52,400	32,700	24,200	20,600	17,800	13,200	13,000	16,100	31,200	37,200

b. For Period 1874 - 1964



RAINFALL AND RUNOFF
IN THE
TENNESSEE RIVER BASIN

- SYMBOLS:
- MONTHLY RAINFALL ABOVE CHATTANOOGA
 - ▨ MONTHLY RUNOFF AT CHATTANOOGA (UNREGULATED)
 - ▩ ACTUAL MONTHLY RUNOFF AT CHATTANOOGA (REGULATED)

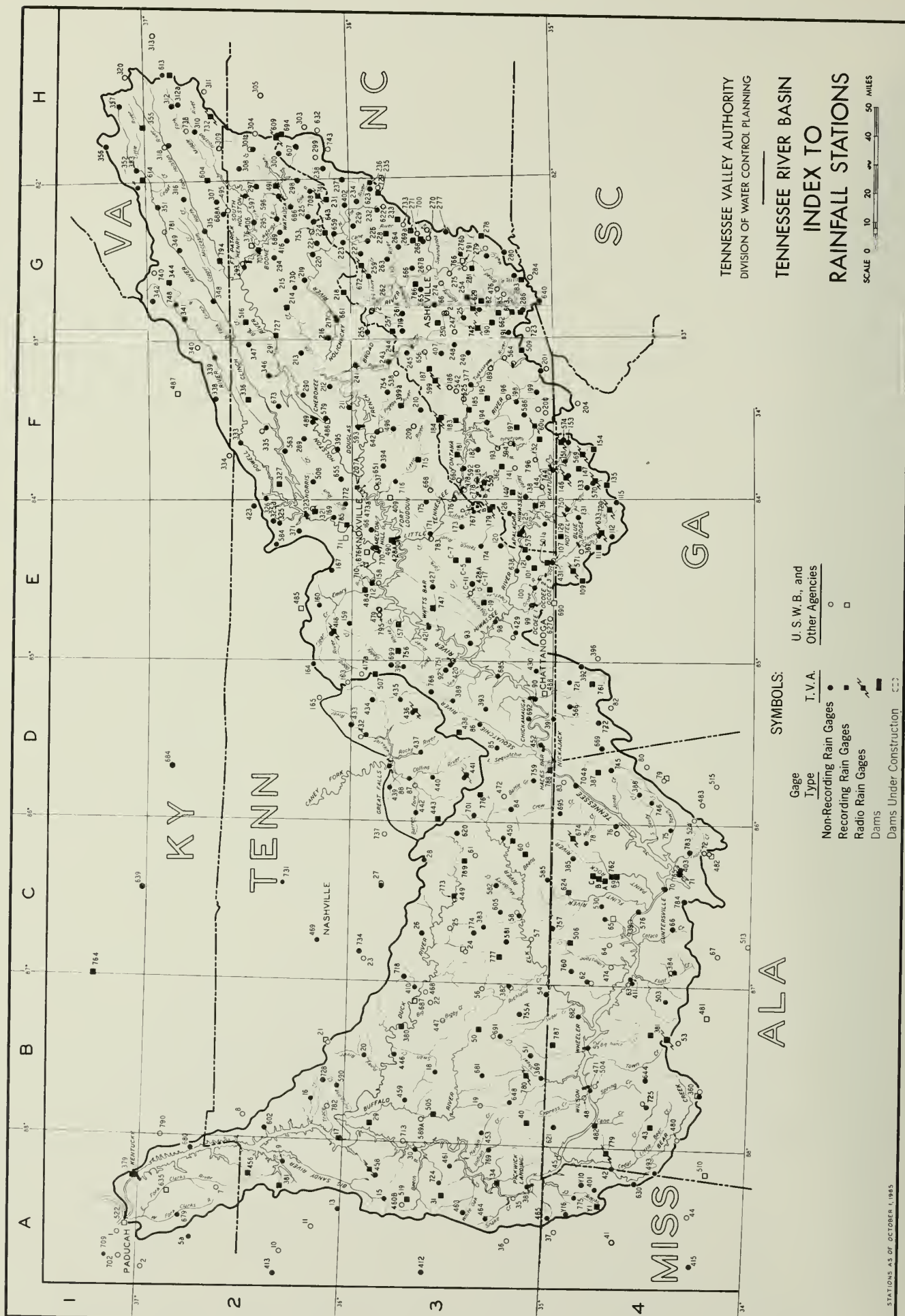
EVAPORATION DATA—YEAR 1965

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Evaporation (Inches)													
Paris, Tenn.	1.37a	1.65a	2.08	4.63	5.93	5.83	5.84	6.43	3.61	3.15	1.97	----	----
Murphy, N. C.	0.91a	1.21a	2.16	3.60a	5.32	4.50	4.97a	4.91	3.60a	2.93	1.59	0.90	36.60a
Beetree Dam, N. C.	0.94a	1.16a	2.10a	4.58a	5.76	4.37a	4.80	4.78	2.98	2.34a	1.65	1.10a	36.56a
Jefferson City, Tenn.	1.45	1.43	2.02	4.17	6.03	5.17	5.52	5.34	4.33	3.15	1.66	1.07	41.34
Guntersville, Ala.	1.93a	2.05a	3.01a	5.53	7.08	6.37	6.79	6.76	5.02a	3.67	2.32	1.56	52.09a
Marion, Va.	----	----	2.39a	4.53	5.79	5.11a	5.40	4.98	4.03	3.00	1.74	0.97a	----
Precipitation (Inches)													
Paris, Tenn.	3.90	6.03	7.26	3.82	2.54	2.69	4.99	0.17	6.22	1.04	3.31	----	----
Murphy, N. C.	3.67	5.86	9.49	4.68	5.48	4.47	4.79	2.23	4.60	3.04	3.31	0.53	52.15
Beetree Dam, N. C.	1.56	3.08	6.10	4.36	6.98	5.23	5.08	4.12	5.89	3.24	1.68	0.16	47.48
Jefferson City, Tenn.	4.18	3.32	7.86	4.01	3.43	2.42	5.75	1.53	3.68	1.87	2.79	0.45	41.29
Guntersville, Ala.	2.60	6.69	10.16	5.59	2.22	8.12	2.28	1.41	3.87	1.81	1.88	1.08	47.71
Marion, Va.	2.62	2.36	4.97	3.75	3.27	3.02	5.75	3.82	1.58	2.44	1.51	0.25	35.34
Average Air Temperature (Degrees F)													
Paris, Tenn.	40	39	41	61a	69	75	77	76	70	57	52	--	--
Murphy, N. C.	39	38	44	57	64	66	71	71	69	53	47	38	55
Beetree Dam, N. C.	38	38	42	56	64	65	70a	69	65	52	46	38	54a
Jefferson City, Tenn.	36	36	44	58	69	71	74	74	70	55	50	40	56
Guntersville, Ala.	44	43	48	64	72	75	78	78	74	62	55	45	62
Marion, Va.	34	34	39	52	63	64	69	68	64	49	43	34	51
Average Water Temperature (Degrees F)													
Paris, Tenn.	43a	45a	48a	66	78	82	84	83	76	62	56	--	--
Murphy, N. C.	42a	44a	52a	68	75a	77a	81a	81	75a	60a	52	42	62a
Beetree Dam, N. C.	38a	40a	46a	60	71	73	79	79	72	56a	48a	38a	58a
Jefferson City, Tenn.	42a	44a	52	64	76	77	81	81	75	59	51	42a	62a
Guntersville, Ala.	48a	48a	53	67	78	81	85	84	78	65	58	48	66a
Marion, Va.	--	--	46a	57	71	72	78	76	71	54	46a	39a	--
Average Relative Humidity (Percent)													
Paris, Tenn.	86	76	81	79	82	88	90	81	90	80	78	--	--
Murphy, N. C.	86	85	85	81	83	90	90	89	89	84	85	85	86
Beetree Dam, N. C.	73	69	72	71	78	86	88a	84	90	76	74	81	78a
Jefferson City, Tenn.	86	83	83	80	80	86	89	88	85	81	84	86	84
Guntersville, Ala.	79	75	81	76	77	86	86	80	82	75	80	82	80
Marion, Va.	86	82	83	76	81	85	89	88	88	82	84	86	84
Average Wind Velocity (Miles Per Hour)													
Paris, Tenn.	1.40	1.14	1.32	1.00	0.43	0.51	0.44	0.59	0.50	0.52	0.63	----	----
Murphy, N. C.	0.28	----	0.90	0.56	0.13	0.05	0.05	0.08	0.17	0.57	0.49	0.49	0.49
Beetree Dam, N. C.	1.34	1.62	1.36	1.29	0.56	0.49	0.43	0.42	0.52	0.82	0.98	1.06	0.91
Jefferson City, Tenn.	1.41	1.59	1.67	1.49	0.83	0.78	0.79	0.70	0.74	1.08	0.90	0.99	1.08
Guntersville, Ala.	2.24	2.34	2.14	1.70	1.05	1.01	0.86	0.87	1.12	1.02	1.23	1.43	1.42
Marion, Va.	2.32	2.56	2.57	2.13	1.18	1.01	0.84	0.82	0.73	1.34	1.45	1.48	1.54

Paris, Tennessee, was discontinued November 30, 1965.

a = Partly estimated

TABLES OF 1965 MONTHLY
AND
ANNUAL PRECIPITATION



TENNESSEE VALLEY AUTHORITY
DIVISION OF WATER CONTROL PLANNING

TENNESSEE RIVER BASIN INDEX TO RAINFALL STATIONS

SCALE 0 10 20 40 50 MILES

SYMBOLS:

U. S. W. B. and
Other Agencies

T. V. A.

Gage
Type

- Non-Recording Rain Gages
- Recording Rain Gages
- Radio Rain Gages
- Dams
- Dams Under Construction

ANNUAL 1965 PRECIPITATION—In Inches

DIVISION OF WATER CONTROL PLANNING

Sta. No.	Index	Owner	Station Name and Location	Yrs of Record	MONTHS												Total	No. of Days	Depth of Snow (Inches)										
					JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER													
54	B-3	TVA	BETHEL	31	4.04	6.11	9.10	6.34	3.85	4.89	1.08	4.01	3.46	3.31	5.37	5.01	1.42	3.46	2.01	3.63	1.88	2.67	4.55	1.27	5.16	41.30	55.17	5.0	
55A	B-3	TVA	SEBEE	8	3.50	4.17	10.16	8.34	2.70	3.35	5.51	4.00	4.30	3.97	2.57	3.16	2.91	3.61	2.91	3.61	2.07	2.88	4.06	4.95	1.52	4.88	51.55	54.00	1.4
352	B-3	TVA	FULAKI	721	2.91	5.15	11.03	5.99	4.46	4.53	1.06	3.72	4.69	3.36	7.86	4.03	2.24	4.03	3.16	1.79	2.40	2.62	4.54	1.43	5.01	46.99	53.10	2.5	
352A	B-3	USBR	FULAKI WATER PLANT	9	2.91	3.86	5.22	5.15	1.02	3.46	4.19	3.96	6.74	4.19	2.19	3.29	3.13	3.91	3.91	2.49	2.49	2.93	4.64	1.16	4.53	41.93	53.02	2.2	
56	B-3	USBR	LYNNVILLE, NEAR	744	3.78	6.01	8.24	6.07	2.68	4.08	5.15	3.60	5.49	4.61	2.91	3.62	3.28	3.25	2.28	2.71	2.93	4.64	1.26	5.04	47.15	56.74	2.8		
777	B-3	TVA	DIAMOND, NEAR R	5	3.54	4.23	9.16	4.77	2.13				3.02				1.94						1.15		43.87				
57	C-3	USBR	COLUMBER	686	7.21	6.11	4.31	5.80	2.82	4.19	3.60	3.34	4.18	4.94	2.66	3.68	3.69	0.93	2.96	2.71	4.14	1.24	2.34		44.62	54.10	5.0		
581	C-3	TVA	BOONSVILLE	784	4.29	6.34	3.86	6.12	3.89	4.49	1.30	3.91	4.54	4.16	4.72	3.80	1.89	3.88	1.95	2.30	3.57	2.41	1.27	5.41	44.13	54.29	6.5		
58A	C-3	TVA	FAIRVIEWVILLE	700	4.19	5.36	4.69	5.36	3.78	5.30	3.88	3.13	4.16				1.62	2.73	2.53	4.36	1.10	1.88		40.39	52.59	6.5			
58B	C-3	USBR	FAIRVIEWVILLE	695	3.66	5.47	4.23	5.33	3.17	4.09	3.95	3.31	4.67	5.07	1.96	3.70	2.66	1.74	2.66	1.82	1.33	1.40		39.80	51.89	7.6			
605	C-3	TVA	BEAUFORT	724	4.59	6.24	4.19	6.24	3.80	4.71	4.72	3.20	3.20	3.74	4.09	3.74	2.09	3.74	2.09	3.74	2.09	3.74		39.80	51.89	7.6			
383	C-3	TVA	FAIRVIEWVILLE	826	4.50	6.32	3.69	6.43	3.18	4.23	3.66	3.79	3.45	5.92	2.16	3.81	2.69	3.94	0.98	2.41	2.61		1.11	5.08	41.45	55.93	5.6		
77A	C-3	TVA	BEAUFORT	724	3.66	6.30	3.98	6.07	1.72	4.24	5.30	3.80	4.66	4.66	2.02	3.96	2.85	2.18	3.20	1.08	44.86								
482	C-3	TVA	BEAUFORT	780	3.66	6.30	3.98	6.07	1.72	4.24	5.30	3.80	4.66	4.66	2.02	3.96	2.85	2.18	3.20	1.08	44.86								
60	C-3	TVA	BEAUFORT	780	3.66	6.30	3.98	6.07	1.72	4.24	5.30	3.80	4.66	4.66	2.02	3.96	2.85	2.18	3.20	1.08	44.86								
60	C-3	TVA	BEAUFORT	780	3.66	6.30	3.98	6.07	1.72	4.24	5.30	3.80	4.66	4.66	2.02	3.96	2.85	2.18	3.20	1.08	44.86								
61	C-3	USBR	TULLAHOMA	1065	3.83	6.02	7.26	5.73	2.69	3.76	4.41	3.83	3.36	5.07	4.54	3.36	3.36	1.91	3.36	1.91	4.54	45.52	53.72						
420A	C-3	TVA	WINCHESTER	960	3.17	5.06	4.66	5.35	1.32	4.05	3.76	3.42	5.52	5.33	2.10	3.46	3.72	1.21	2.56	1.21	4.06	4.97	37.40	53.49					
72	C-3	TVA	WINCHESTER	990	3.17	5.06	4.66	5.35	1.32	4.05	3.76	3.42	5.52	5.33	2.10	3.46	3.72	1.21	2.56	1.21	4.06	4.97	37.40	53.49					
763	C-4	TVA	GUNTERVILLE EVAP STA	605	4.66	4.96	10.16	8.29	2.22	3.06	8.12	4.73	2.28	3.92	1.91	3.20	3.87	3.66	1.81	1.90	1.88	1.08	1.48		47.71	55.35			
763	C-4	TVA	BUTLERVILLE	995	3.38	5.89	5.99	5.02	1.59	2.81	6.35	4.49	2.07	4.30	2.72	4.24	3.26	1.78	2.91	1.73	4.80	1.45	5.09		49.49	57.82			
72	C-4	USBR	ALPHEVILLE	1060	4.01	5.66	4.73	5.65	2.65	3.63	6.44	3.88	4.01	4.70	2.39	4.01	1.72	2.96	1.51	2.91	1.76	4.06		49.49	57.82				
482A	C-4	USBR	1010	28	5.28	5.43	5.17	5.58	4.87	3.68	4.38	4.16	4.97	4.24	3.43	3.79	2.49	3.48	1.32	2.17	2.22	4.26		41.59	52.93				
24A	C-4	AFI	1195	25	2.98	5.75	5.12	5.78	3.69	5.14	1.13	3.53	5.26	4.16	1.78	4.02	2.94	3.79	2.75	3.71	1.05	2.49		41.59	52.93				
483	C-4	USBR	755	28	2.77	5.68	4.84	5.83	3.93	5.08	1.15	3.51	5.97	3.97	3.11	4.34	3.77	2.72	3.68	1.90	2.45	2.47	4.26		41.59	52.93			
515	C-4	USBR	636	73	2.47	6.15	5.37	5.95	3.29	6.74	1.70	3.82	4.95	3.41	2.47	3.87	2.91	2.49	2.76	1.11	5.19		47.59	54.80					
75	C-4	TVA	SHOFF BILL	1120	3.01	6.02	5.33	5.59	3.29	6.47	3.89	4.10	3.64	4.95	1.37	2.63	1.43	1.40	2.63	1.43	4.10	0.89	4.75		42.86	52.81			
75A	C-4	USBR	920	30	2.81	5.81	3.76	5.56	2.87	3.46	6.80	3.94	1.88	4.59	1.22	3.58	3.31	3.37	1.01	2.63	1.52	4.04	0.89	4.75		42.86	52.81		
80	D-4	USBR	VALLEY HEAD	1010	3.67	5.40	4.50	5.58	1.47	3.60	7.38	3.82	3.70	4.59	3.32	3.97	2.88	3.10	1.64	2.55	2.18	3.95	1.08	4.81		46.78	56.19		
386	D-4	TVA	STEVENS	1405	27	3.34	5.80	7.16	6.10	1.11	3.67	4.61	5.04	4.43	3.42	3.10	4.46	3.37	1.24	2.00	2.34	4.39	1.17	5.13		47.59	53.77		
76	C-4	USBR	SCOTTSDALE	680	84	3.82	5.93	12.78	6.19	1.98	3.80	8.06	3.64	5.84	5.49	3.56	3.63	3.47	1.16	1.30	1.37	4.12	1.06	5.38		55.35	55.41		
76A	C-4	TVA	SCOTTSDALE	680	19	3.71	6.05	8.45	6.14	1.37	3.80	8.06	3.64	5.84	5.49	3.56	3.63	3.47	1.16	1.30	1.37	4.12	1.06	5.38		55.35	55.41		
695	C-4	TVA	PLEASANT GROVE SCHOOL	640	17	3.29	5.30	10.15	6.60	3.00	4.53	3.92	3.58	5.21	4.15	3.42	3.40	3.73	2.62	1.40	1.06	2.56	1.06	5.38		55.35	55.41		
187	D-4	TVA	FIAT ROCK R	1400	17	2.87	5.24	6.98	5.72	10.76	5.92	3.27	4.36	6.00	3.48	5.77	3.93	3.23	3.10	0.94	2.15	1.30	4.08	0.90	4.57		45.97	49.42	
745	D-4	TVA	1340	10	3.12	5.55	9.22	6.98	11.78	7.44	4.69	5.91	5.04	3.33	4.22	4.74	3.94	2.97	1.64	1.51	1.02	4.04	1.06	5.04		54.62	59.37		
704	D-4	TVA	1625	16	4.28	5.71	5.93	5.78	15.47	6.88	4.05	5.32	2.64	3.47	4.96	2.87	4.96	2.87	4.96	2.87	4.96	2.87	4.96	2.87	4.96		54.30	54.36	
83	D-4	USBR	BRIDGEMONT	690	69	3.99	5.85	5.26	5.63	3.30	4.38	3.67	3.77	2.81	4.43	4.09	3.41	4.73	3.35	0.64	2.94	4.01	0.80	5.29		45.53	52.36		
779	D-4	TVA	SEWANEE	1200	72	4.57	6.46	10.67	6.76	2.30	4.15	8.63	4.40	3.77	5.53	3.26	3.77	3.08	3.52	2.17	2.56	2.95	4.89	1.23	5.05		55.06	59.76	
84	D-3	TVA	LOCKMART TOWER	2205	30	3.23	6.29	5.69	6.32	1.66	4.02	6.06	4.54	3.88	6.42	3.46	4.69	2.88	3.07	2.11	2.18	2.97	4.06	0.95	5.88		53.77	59.36	
82	D-3	TVA	DONALD	715	42	3.82	6.08	11.46	6.20	3.14	4.99	2.45	3.42	5.04	3.25	3.60	2.31	2.86	1.34	2.65	3.09	4.09	0.91	5.20		50.64	53.81		
438	D-3	TVA	CALVEY	212																									

Sta. No.	Station Name and Location	Index	Owner	Elev.	Year of Record	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	Y E A R	Depth of Snow (Inches)									
CANEY FORK ABOVE ROCK ISLAND (CONT'D)																												
412	MEMPHIS	D-3	TVA	1000	24	3.74	5.96	8.07	5.30	3.88	3.82	4.11	7.62	5.10	0.56	3.61	4.08	4.24	1.76	2.10	2.36	3.61	0.85	4.82	48.71	52.72	6.9	
413	MEMPHIS	D-3	TVA	980	26	4.23	5.66	8.98	5.42	4.90	4.11	3.86	5.07	4.05	1.34	3.95	3.40	3.57	1.07	2.19	2.39	3.92	0.69	4.73	46.87	50.75	7.5	
414	SMITHVILLE	D-3	TVA	1120	26	3.62	5.93	7.47	5.76	3.93	4.06	4.19	4.19	4.19	2.23	2.95	3.52	2.89	3.55	4.01	2.83	3.99	0.95	4.33	40.72	51.49	7.5	
417	ROCKY RIVER	D-3	TVA	920	26	4.57	5.54	8.87	5.59	4.12	4.23	3.62	5.65	5.12	1.40	4.31	3.95	3.78	1.99	2.41	3.22	3.96	0.75	4.54	45.80	53.90	7.1	
418	SPARTA	D-3	TVA	910	49	3.65	5.97	8.06	5.72	4.63	4.56	4.16	6.69	4.69	2.88	3.34	3.58	3.69	2.58	2.33	2.58	4.15	0.69	4.15	54.47	53.41	7.9	
419	SPARTA, NEAR	D-3	USWB	960	26	4.01	5.96	8.95	5.74	4.63	4.56	4.16	6.69	4.69	2.88	3.34	3.58	3.69	2.58	2.33	2.58	4.15	0.85	4.67	55.18	52.84	9.2	
423	TAYLORS	D-2	USWB	1010	26	3.21	5.92	8.24	5.40	3.90	3.68	4.42	5.21	4.77	1.34	3.37	3.58	3.95	1.85	2.35	2.65	4.29	0.77	5.04	48.48	52.89	13.2	
424	MONTICNEY	D-2	USWB	1000	34	4.18	6.66	9.00	6.00	4.97	4.17	4.82	5.21	4.77	1.34	3.37	3.58	3.95	1.85	2.35	2.65	4.29	0.77	5.04	48.48	52.89	13.2	
425	EASTLAND	D-3	TVA	1750	46	3.41	5.97	8.16	5.87	10.09	5.88	4.78	5.88	3.73	6.57	4.82	7.36	4.74	3.78	4.30	2.80	2.60	4.12	0.89	5.46	57.87	55.99	15.0
426	FERRETT	D-3	TVA	1695	26	3.30	5.31	8.62	5.18	4.88	3.36	6.17	4.88	6.93	4.79	3.27	3.66	3.56	3.17	2.22	2.51	2.86	0.40	4.74	52.45	53.80	11.6	
427	FALLS CREEK PARK	D-3	TVA	1500	26	3.21	5.31	8.62	5.18	4.88	3.36	6.17	4.88	6.93	4.79	3.27	3.66	3.56	3.17	2.22	2.51	2.86	0.40	4.74	52.45	53.80	11.6	
428	FALLS CREEK PARK, RADIO	D-3	TVA	1500	16	3.3	5.31	8.62	5.18	4.88	3.36	6.17	4.88	6.93	4.79	3.27	3.66	3.56	3.17	2.22	2.51	2.86	0.40	4.74	52.45	53.80	11.6	
CHICKAMAUGA RIVER - CHICKAMAUGA TO WATTS BAR																												
430	CHICKAMAUGA DAM	D-3	TVA	700	30	3.21	6.12	4.95	5.72	10.43	5.99	3.82	4.02	4.86	2.70	3.25	3.78	3.25	1.30	2.44	2.85	2.85	0.81	2.99	50.03	54.43	2.7	
431	COLEMAN DAM	D-3	TVA	765	26	3.95	5.68	4.22	5.65	11.13	5.97	3.66	4.34	1.80	3.49	5.94	4.01	5.81	5.71	2.72	4.03	3.88	1.25	4.95	50.41	54.43	1.8	
432	LEWIS CHAPEL	D-3	TVA	1850	27	3.72	6.23	4.40	6.11	11.19	6.73	3.49	4.35	4.36	4.98	2.10	3.99	4.63	3.51	1.51	2.71	3.29	4.62	0.75	5.75	48.20	57.96	11.4
433	FERRETT SCHOOL	D-3	TVA	765	18	3.77	6.26	4.40	5.85	10.25	7.21	4.38	4.34	4.34	2.70	3.78	4.65	4.00	2.68	1.40	2.68	3.03	0.82	3.11	48.80	57.86	1.9	
434	FERRETT SCHOOL	D-3	TVA	765	18	3.77	6.26	4.40	5.85	10.25	7.21	4.38	4.34	4.34	2.70	3.78	4.65	4.00	2.68	1.40	2.68	3.03	0.82	3.11	48.80	57.86	1.9	
435	FERRETT SCHOOL	D-3	TVA	765	18	3.77	6.26	4.40	5.85	10.25	7.21	4.38	4.34	4.34	2.70	3.78	4.65	4.00	2.68	1.40	2.68	3.03	0.82	3.11	48.80	57.86	1.9	
436	FERRETT SCHOOL	D-3	TVA	765	18	3.77	6.26	4.40	5.85	10.25	7.21	4.38	4.34	4.34	2.70	3.78	4.65	4.00	2.68	1.40	2.68	3.03	0.82	3.11	48.80	57.86	1.9	
437	FERRETT SCHOOL	D-3	TVA	765	18	3.77	6.26	4.40	5.85	10.25	7.21	4.38	4.34	4.34	2.70	3.78	4.65	4.00	2.68	1.40	2.68	3.03	0.82	3.11	48.80	57.86	1.9	
438	FERRETT SCHOOL	D-3	TVA	765	18	3.77	6.26	4.40	5.85	10.25	7.21	4.38	4.34	4.34	2.70	3.78	4.65	4.00	2.68	1.40	2.68	3.03	0.82	3.11	48.80	57.86	1.9	
439	FERRETT SCHOOL	D-3	TVA	765	18	3.77	6.26	4.40	5.85	10.25	7.21	4.38	4.34	4.34	2.70	3.78	4.65	4.00	2.68	1.40	2.68	3.03	0.82	3.11	48.80	57.86	1.9	
440	FERRETT SCHOOL	D-3	TVA	765	18	3.77	6.26	4.40	5.85	10.25	7.21	4.38	4.34	4.34	2.70	3.78	4.65	4.00	2.68	1.40	2.68	3.03	0.82	3.11	48.80	57.86	1.9	
441	FERRETT SCHOOL	D-3	TVA	765	18	3.77	6.26	4.40	5.85	10.25	7.21	4.38	4.34	4.34	2.70	3.78	4.65	4.00	2.68	1.40	2.68	3.03	0.82	3.11	48.80	57.86	1.9	
442	FERRETT SCHOOL	D-3	TVA	765	18	3.77	6.26	4.40	5.85	10.25	7.21	4.38	4.34	4.34	2.70	3.78	4.65	4.00	2.68	1.40	2.68	3.03	0.82	3.11	48.80	57.86	1.9	
443	FERRETT SCHOOL	D-3	TVA	765	18	3.77	6.26	4.40	5.85	10.25	7.21	4.38	4.34	4.34	2.70	3.78	4.65	4.00	2.68	1.40	2.68	3.03	0.82	3.11	48.80	57.86	1.9	
444	FERRETT SCHOOL	D-3	TVA	765	18	3.77	6.26	4.40	5.85	10.25	7.21	4.38	4.34	4.34	2.70	3.78	4.65	4.00	2.68	1.40	2.68	3.03	0.82	3.11	48.80	57.86	1.9	
445	FERRETT SCHOOL	D-3	TVA	765	18	3.77	6.26	4.40	5.85	10.25	7.21	4.38	4.34	4.34	2.70	3.78	4.65	4.00	2.68	1.40	2.68	3.03	0.82	3.11	48.80	57.86	1.9	
446	FERRETT SCHOOL	D-3	TVA	765	18	3.77	6.26	4.40	5.85	10.25	7.21	4.38	4.34	4.34	2.70	3.78	4.65	4.00	2.68	1.40	2.68	3.03	0.82	3.11	48.80	57.86	1.9	
447	FERRETT SCHOOL	D-3	TVA	765	18	3.77	6.26	4.40	5.85	10.25	7.21	4.38	4.34	4.34	2.70	3.78	4.65	4.00	2.68	1.40	2.68	3.03	0.82	3.11	48.80	57.86	1.9	
448	FERRETT SCHOOL	D-3	TVA	765	18	3.77	6.26	4.40	5.85	10.25	7.21	4.38	4.34	4.34	2.70	3.78	4.65	4.00	2.68	1.40	2.68	3.03	0.82	3.11	48.80	57.86	1.9	
449	FERRETT SCHOOL	D-3	TVA	765	18	3.77	6.26	4.40	5.85	10.25	7.21	4.38	4.34	4.34	2.70	3.78	4.65	4.00	2.68	1.40	2.68	3.03	0.82	3.11	48.80	57.86	1.9	
450	FERRETT SCHOOL	D-3	TVA	765	18	3.77	6.26	4.40	5.85	10.25	7.21	4.38	4.34	4.34	2.70	3.78	4.65	4.00	2.68	1.40	2.68	3.03	0.82	3.11	48.80	57.86	1.9	
451	FERRETT SCHOOL	D-3	TVA	765	18	3.77	6.26	4.40	5.85	10.25	7.21	4.38	4.34	4.34	2.70	3.78	4.65	4.00	2.68	1.40	2.68	3.03	0.82	3.11	48.80	57.86	1.9	
452	FERRETT SCHOOL	D-3	TVA	765	18	3.77	6.26	4.40	5.85	10.25	7.21	4.38	4.34	4.34	2.70	3.78	4.65	4.00	2.68	1.40	2.68	3.03	0.82	3.11	48.80	57.86	1.9	
453	FERRETT SCHOOL	D-3	TVA	765	18	3.77	6.26	4.40	5.85	10.25	7.21	4.38	4.34	4.34	2.70	3.78	4.65	4.00	2.68	1.40	2.68	3.03	0.82	3.11	48.80	57.86	1.9	
454	FERRETT SCHOOL	D-3	TVA	765	18	3.77	6.26	4.40	5.85	10.25	7.21	4.38	4.34	4.34	2.70	3.78	4.65	4.00	2.68	1.40	2.68	3.03	0.82	3.11	48.80	57.86	1.9	
455	FERRETT SCHOOL	D-3	TVA	765	18	3.77	6.26	4.40	5.85	10.25	7.21	4.38	4.34	4.34	2.70	3.78	4.65	4.00	2.68	1.40	2.68	3.03	0.82	3.11	48.80	57.86	1.9	
456	FERRETT SCHOOL	D-3	TVA	765	18	3.77	6.26	4.40	5.85	10.25	7.21	4.38	4.34	4.34	2.70	3.78	4.65	4.00	2.68	1.40	2.68	3.03	0.82	3.11	48.80	57.86	1.9	
457	FERRETT SCHOOL	D-3	TVA	765	18	3.77	6.26	4.40	5.85	10.25	7.21	4.38	4.34	4.34	2.70	3.78	4.65	4.00	2.68									

TENNESSEE VALLEY AUTHORITY

ANNUAL 1965 PRECIPITATION—In Inches

DIVISION OF WATER CONTROL PLANNING

[illegible]

Figures in the "mean or normal" column in the tabulation on pages 17 to 25 are determined as follows: For the U. S. Weather Bureau stations, the figures are normals based on the 30-year period 1931-1960, computed by the Weather Bureau. For TVA and other agency stations with 18 or more years of record through 1964, the figures are long-term means adjusted to the 30-year period 1935-1964. For stations with 5 to 17 years of record in 1964, the figures are running averages for the period of record. No means are listed for records of less than 5 complete years.

